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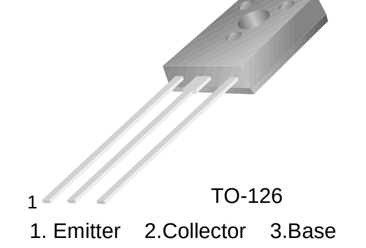
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MJE800/801/802/803

Monolithic Construction With Built-in Base-Emitter Resistors

- High DC Current Gain : h_{FE}= 750 (Min.) @ I_C= 1.5 and 2.0A DC
- Complement to MJE700/701/702/703



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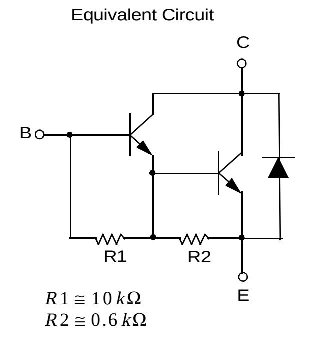
1. Emitter 2.Collector 3.Base

NPN Epitaxial Silicon Darlington Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector- Base Voltage : MJE800/801 : MJE802/803	60 80	V V
V_{CEO}	Collector-Emitter Voltage : MJE800/801 : MJE802/803	60 80	V V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	4	A
I_B	Base Current	0.1	A
P_C	Collector Dissipation (T_C=25°C)	40	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

Equivalent Circuit



$R1 \cong 10\,k\Omega$
$R2 \cong 0.6\,k\Omega$

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage : MJE800/801 : MJE802/803	I_C = 50mA, I_B = 0	 60 80		 V V
I_{CEO}	Collector Cut-off Current : MJE800/801 : MJE802/803	 V_{CE} = 60V, I_B = 0 V_{CE} = 80V, I_B = 0		 100 100	 µA µA
I_{CBO}	Collector Cut-off Current	V_{CB} = Rated BV_{CEO}, I_E = 0 V_{CB} = Rated BV_{CEO}, I_E = 0 T_C = 100°C		100 500	µA µA
I_{EBO}	Emitter Cut-off Current	V_{BE} = 5V, I_C = 0		2	mA
h_{FE}	DC Current Gain : MJE800/802 : MJE801/803 : ALL DEVICES	V_{CE} = 3V, I_C = 1.5A V_{CE} = 3V, I_C = 2A V_{CE} = 3V, I_C = 4A	750 750 100		
V_{CE}(sat)	Collector-Emitter Saturation Voltage : MJE800/802 : MJE801/803 : ALL DEVICES	 I_C = 1.5A, I_B = 30mA I_C = 2A, I_B = 40mA I_C = 4A, I_B = 40mA		 2.5 2.8 3	 V V V
V_{BE}(on)	Base-Emitter ON Voltage : MJE800/802 : MJE801/803 : ALL DEVICES	 V_{CE} = 3V, I_C = 1.5A V_{CE} = 3V, I_C = 2A V_{CE} = 3V, I_C = 4A		 2.5 2.5 3	 V V V

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Typical Characteristics

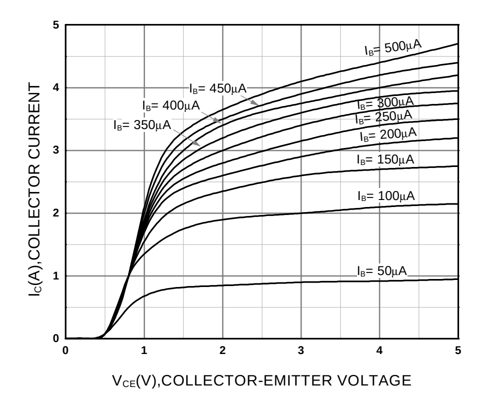


Figure 1. Static Characteristic

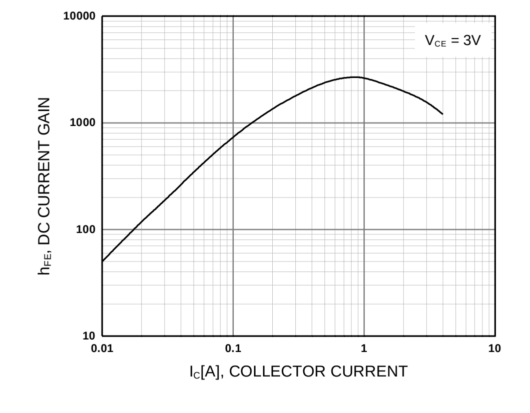


Figure 2. DC current Gain

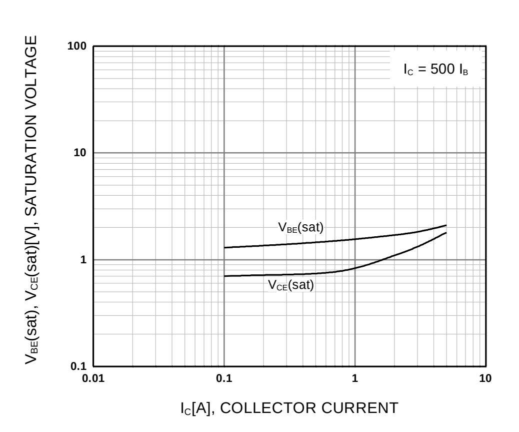


Figure 3. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

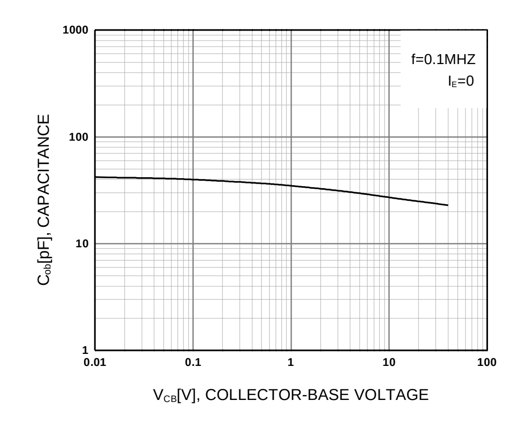


Figure 4. Collector Output Capacitance

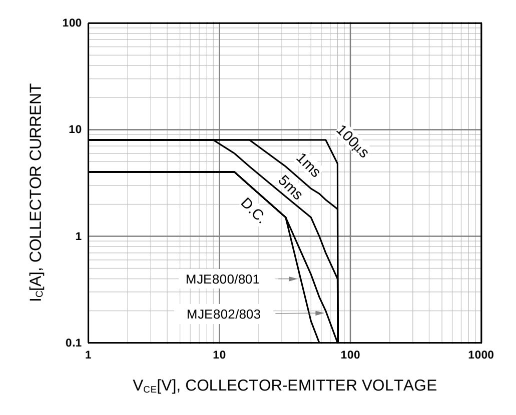


Figure 5. Safe Operating Area

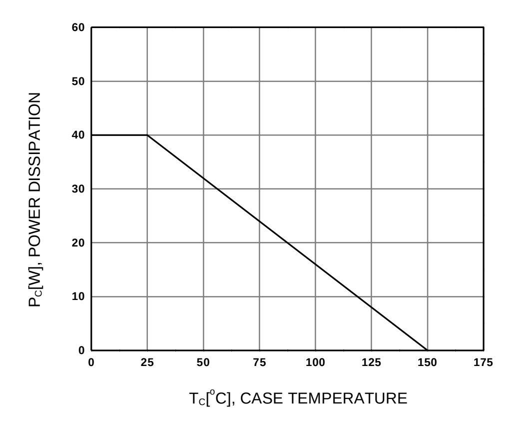
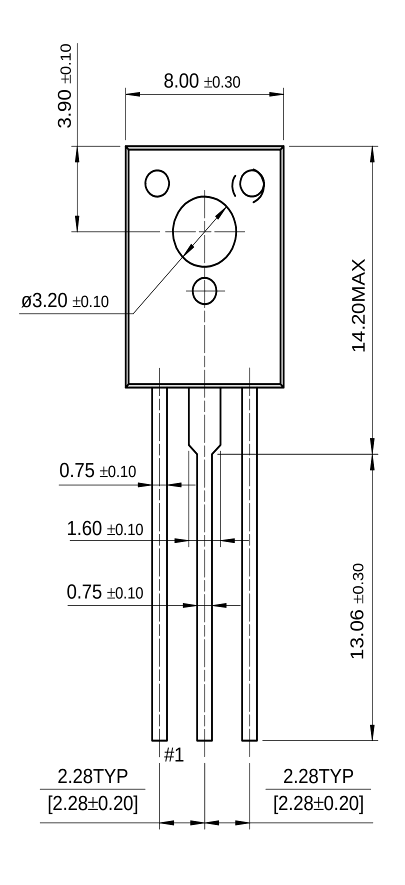


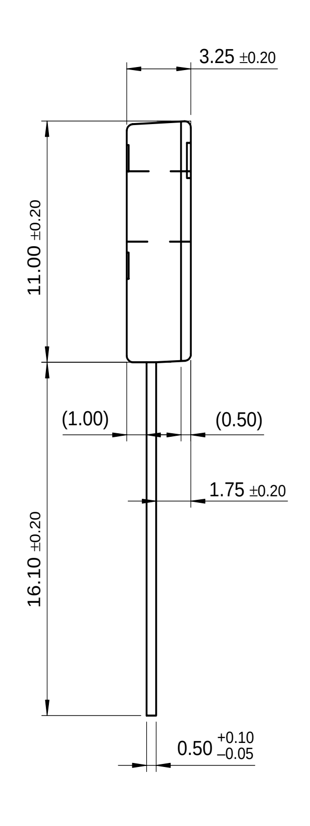
Figure 6. Power Derating

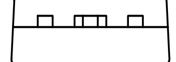
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Package Demensions

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Dimensions in Millimeters

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